



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 8

1595 Wynkoop Street  
Denver, CO 80202-1129  
Phone 800-227-8917  
<http://www.epa.gov/region08>

NOV 20 2014

Ref: 8P-W-UIC

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Mr. Mike Hackney  
Petroglyph Energy, Inc.  
860 Broadway Avenue, Suite 500  
Boise, Idaho 83707

RE: Underground Injection Control (UIC)  
Minor Area Permit Modification 2  
EPA UIC Area Permit UT20736-00000  
Antelope Creek Waterflood  
Duchesne County, Utah

Dear Mr. Hackney:

The U.S. Environmental Protection Agency (EPA) Region 8 received the Petroglyph Energy, Inc. (Petroglyph) September 15, 2014, letter with enclosures requesting a Minor Area Permit Modification to the recalculation of Maximum Allowable Injection Pressures (MAIP) in the Antelope Creek Waterflood. A modification was correspondingly issued on October 31, 2014. This modification revokes the October 31, 2014, modification, and restores the original MAIP calculation as shown below.

MODIFIED TO ORIGINAL: Antelope Creek Waterflood Area Permit, Part II, Condition 5, Injection Pressure Limitation, states that all Area Permit "Maximum Surface Injection Pressures" (MSIP) shall be calculated using the following calculation:

$$P_m = [FG - (0.433 \times SG)] D$$

$P_m$  - maximum authorized injection pressure

$FG = 0.88$ : All calculations shall use this conservative fracture gradient

$SG = 1.00$ : A constant Specific Gravity of injected fluids

$D = 4310$  feet (A constant, based on the average shallowest perforation in four wells).

Higher well MAIPs can be requested on an individual well basis by furnishing the results of a Step Rate Test (SRT) to the EPA. The result of a temperature survey would also need to be evaluated by the EPA to ensure that the fluids remain within the injection zone.



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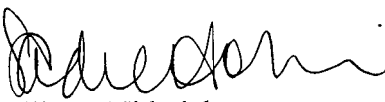

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Scan under  
UT 20736-00000  
Modification -  
Minor Mod  
Approved 11/20/2014

If you have questions regarding the above action, please contact Bruce Suchomel of my staff by calling (303) 312-6001 or (800) 227-8917, extension 312-6001.

Sincerely,

Callie A. Videtich  
Acting Assistant Regional Administrator  
Office of Partnerships and Regulatory Assistance

cc:

Uintah & Ouray Business Committee  
Gordon Howell Jr., Chairman  
Ronald Wopsock, Vice-Chairman  
Tony Small, Councilman  
Phillip Chimburas, Councilman  
Stewart Pike, Councilman  
Bruce Ignacio, Councilman

Lelilah Duncan, Acting Superintendent  
BIA - Uintah & Ouray Indian Agency

Minnie Grant  
Air Quality Coordinator  
Ute Indian Tribe

Manual Myore  
Director of Energy & Minerals Dept.  
Ute Indian Tribe

Brad Hill  
Associate Director  
Utah Division of Oil, Gas, and Mining

Fluid Minerals Engineering Office  
BLM - Vernal Office

Robin Hansen  
Fluid Minerals Engineering Office  
BLM - Vernal Office

# UIC Program Action: Minor Permit Modification

UT 2736-00000

Permit Number: UT20736-00000

Well Name: Area Permit

☐ Form or ☒ Non- Form

Operator: Petroglyph Energy, Inc.

		Mailcode	Initials	Date
Writer: Bruce Suchomel	Phone: 312-6001	8P-W-UIC	BRS	11/13/14
UIC Tech Review	<input type="checkbox"/> N/A <input type="checkbox"/> DWJ <input type="checkbox"/> CT <input type="checkbox"/> NW (8ENF-UFO) <input type="checkbox"/> DM	8P-W-UIC		
	<input type="checkbox"/> TP <input type="checkbox"/> JD <input checked="" type="checkbox"/> WC <input type="checkbox"/> LB <input type="checkbox"/> BS <input type="checkbox"/> VS <input type="checkbox"/> TA			
	W. Cheung reviewed			
C Cline, Admin	Proof		lob	11/17/14
D. Minter, Dir, UIC	<input checked="" type="checkbox"/> concur	8P-W-UIC	DM	11/18/14
Sadie Hoskie	<input type="checkbox"/> Sign	8P-W	SA	11/18/14
C Cline, Admin	<input checked="" type="checkbox"/> certified mail log entry <input checked="" type="checkbox"/> date stamp <input checked="" type="checkbox"/> letter signed	8P-W-UIC	lob	11/20/2014
	<input checked="" type="checkbox"/> mail <u>copy</u> of Modification to addressee			
	<input checked="" type="checkbox"/> mail <u>copy</u> of Modification to cc list			emailed
	<input checked="" type="checkbox"/> provide <u>original</u> Modification to permit writer			
A Carroll, Admin	<input type="checkbox"/> U2 entry - PERMIT ACTIVITY	8P-W-UIC		
	<input type="checkbox"/> Spreadsheet entry			
Permit Writer: Bruce Suchomel	<input type="checkbox"/> file documents	8P-W-UIC		

## LEFT SIDE

Modification Letter - Concurrence Copy

## RIGHT SIDE

Modification Letter

COMMENTS:



U.S. Postal Service™  
**CERTIFIED MAIL™ RECEIPT**  
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To Mike Hackney  
Petroglyph Energy, Inc.  
860 Broadway Ave., Ste. 500  
Boise, ID 83707

Sen  
Stre  
or F  
City

PS Form 3800, August 2006

See Reverse for Instructions

7009 3410 0000 2601 4580



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CONCURRENCE

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*[Signature]*  
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11/17/2014

*[Signature]*  
8P-W-UIC  
11/18/14

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Sincerely,

Callie A. Videtich  
Acting Assistant Regional Administrator  
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Associate Director  
Utah Division of Oil, Gas, and Mining

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BLM - Vernal Office

Robin Hansen  
Fluid Minerals Engineering Office  
BLM - Vernal Office

bcc:

8P-TA, Jennifer Harris

8ENF-W, Kimberly Pardue-Welch